

Boroditsky 2000-0578A



UNITED STATES  
PATENT AND TRADEMARK OFFICE

**Patent Application**

Inventor(s)	Mikhail Boroditsky Nicholas J. Frigo	Case Name	Boroditsky 2000-0578A
Filing Date	10/11/2001	Serial No.	09/973,693
Examiner		Art Unit	2661
Title	System for Composite Packet-Switching Over WDM By Transparent Photonic Slot Routing		

COMMISSIONER FOR PATENTS  
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SIR:

Affidavit Under 37 CFR 1.132

1. My name is Mark D. Feuer. I have BA in Physics from Harvard University and a PhD in Solid-State Physics from Yale University.
2. I have worked in the areas of device physics, high-speed electronics, and optical systems for Bell Labs, JDS Uniphase Corp., and AT&T Labs – Research. I have published over 80 research papers and 2 book chapters, and have served as Solid-State Editor for IEEE Transactions on Electronic Devices (1990-1993) and as Technical Program Chair for OFC/NFOEC2007, the world's premiere conference on optical communication science and technology. I hold 12 US patents in the optical communications field.
3. At the request of Henry Brendzel, I read the above-identified patent application, applicants' arguments in an amendment filed June 7, 2006, the Examiner's Office action dated 2/27/2007, and the Tsushima et al reference (U.S. Patent No. 5,600,466).
4. At item 3 of the Action, the Examiner asserts that a stacker for stacking serially generated packets to form a composite packet is well known in the art, and in support, the Examiner points to US Patent 5,600,466 and asserts that "Tsushima discloses a wavelength stacker ... for stacking a plurality of serially generated packets to form a composite packet...."
5. I respectfully disagree with the assertion that Tsushima discloses a wavelength stacker because the Tsushima reference does not describe or otherwise teach a stacker for stacking serially-generated packets.

6. At no point in Tsushima's patent is there any hint of converting serial data to parallel data, either electronically or optically. Even in lines 38-43 of column 13, where Fig. 8 is discussed, Tsushima says:

Likewise, four separate driver circuits (24) and packet transmission memories (23) could be provided in the respective input paths to the four modulators (25a-25d).

Thus, Tsushima has specifically disclaimed serial-to-parallel conversion here.

7. The apparent similarity between Tsushima's Fig. 2b, Fig. 7, or Fig. 8 and Fig. 11 of the subject application is misleading: the optical delay elements in Tsushima are there only to correct chromatic dispersion, to realign parallel packets into their respective time slots. They are never used to assemble serial packets or to shift a packet from the timeslot in which it was generated. Optical delays for dispersion correction are sized according to the amount of dispersion, with no reference to the packet or slot time. On the other hand, optical delays for a packet stacker must be sized according to the packet time, which may be orders of magnitude different than the dispersion time. So Tsushima's discussion of delay times (Tsushima col. 5, lines. 55-59) teaches away from the needs of a packet stacker.
8. In my opinion, based on a review of the Chlamtac, Sasayama, and the Tsushima references, I would not find it obvious to create a system that takes serially generated packets, then modulates them with a rapidly tunable laser, then creates a composite packet by using a stacker, and then injects the composite packet into a ring using a crossbar switch.

Respectfully Submitted,  
Dr. Mark D. Feuer

Dated: 7/27/2007

